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ABSTRACT

A scale was developed to assess several types of motivation in elementary school children. In addition to the usually recognized internal and external motivation, a third type, termed "amotivation," has been postulated. Students are amotivated when they do not perceive a link between outcomes and their own actions. The preliminary version of the Elementary School Motivation Scale (ESMS) to measure these types of motivation was prepared after asking 561 students in 9 elementary schools in the Montreal area (Quebec, Canada) reasons why they did their homework and why they went to school. An initial 40-item version was completed by 478 students from the same area. Four teachers were asked to judge whether the scale would by suitable for elementary school students. Overall findings with the sample replicated results obtained with similar scales for high school and junior high school students. Some support was found for the reliability and validity of the ESMS. These preliminary results suggest that the scale should be a useful tool for motivation research at the elementary-school level. (Contains 3 tables and 12 references.) (SLD)

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# A MOTIVATION SCALE FOR ELEMENTARY-SCHOOL CHILDREN: REFINING THE EXTRINSIC/INTRINSIC DICHOTOMY

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**Running Head:** Elementary-school Children Motivation Scale

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# A MOTIVATION SCALE FOR ELEMENTARY-SCHOOL CHILDREN: REFINING THE EXTRINSIC/INTRINSIC DICHOTOMY

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## *INTRODUCTION*

In spite of the growing interest in the study of motivation, very few investigators have developed and refined tools to measure this force that energizes and directs behavior toward a goal. With rare exceptions (Ryan and Connell, 1989; Vallerand, Blais, Brière and Pelletier, 1989), most of the scales and tests developed up to now, such as Gottfried's (1985), are unidimensional instruments. These tools have a very limited use as they do not go beyond the measure of the extrinsic/intrinsic motivation dichotomy. Furthermore, they do not allow for a detailed analysis of the complex motivational forces inherent in education.

## *OBJECTIVE*

The primary purpose of the present research is to develop and validate a scale, for elementary-school children, assessing several types of motivation.

## *THEORETICAL FRAMEWORK*

For the past twenty years, most psychologists and educators have agreed that there are two main types of motivation: extrinsic motivation and intrinsic motivation. De Charms (1968) was one of the first researchers to introduce this distinction.

In general, intrinsic motivation (IM) refers to the fact of doing an activity for itself and to the pleasure and satisfaction derived from participation (Deci, 1975). Contrary to IM, extrinsic motivation (EM) pertains to a wide variety of behaviors in which the goals of an action extend beyond those inherent in the activity itself. They are behaviors which are engaged in as means to an end, and not for their own sake (Deci, 1975). Originally, it was thought that EM referred to behaviors performed without self-determination, and could thus only be prompted by external contingencies.

However, Deci and Ryan (1985, 1991) have postulated that various types of EM exist, some of which are self-determined and may be performed through self-regulation. According to these researchers, there are four types of EM which can be ordered along a self-determination continuum. From lower to higher levels of self-determination, they are: external, introjected, identified, and integrated regulation.

External regulation corresponds to EM as it generally appears in the literature; that is, the students' behaviors are regulated through external means such as rewards and constraints. With introjected regulation, the students begin to internalize the reasons for their actions. However, this form of internalization, while internal to the person, is not truly self-determined since it is limited to the internalization of past external contingencies (Vallerand, Blais, Brière and Pelletier, 1989). When the behavior becomes valued by the students, and especially when it is perceived as chosen by the students themselves, the internalization of extrinsic motives becomes regulated through identified regulation. The most self-determined form of EM is referred to as integrated regulation. According to Deci and Ryan (1991), this occurs when the students' actions are personally valued and freely performed. Integrated action is therefore characterized by its authenticity.

An increasing amount of research has been undertaken to evaluate Deci and Ryan's EM formulation. The results consistently support the basic premises of the formulation. For instance, results from confirmatory factor analyses on the motivation scales have supported the presence of the first three types of EM in education (Ryan and Connell, 1989; Vallerand *et al.*, 1989; Karsenti, 1993; Karsenti and Thibert, 1995).

Along with intrinsic and extrinsic motivation, Deci and Ryan (1985, 1991) have posited that a third type of motivation is important to consider in order to fully understand human behavior. This concept is termed amotivation. Students are amotivated when they do not perceive a link between outcomes and their own actions. They are neither extrinsically nor intrinsically motivated. They are non-motivated.

Amotivation can be seen in many ways as similar to learned helplessness (Abramson, Seligman and Teasdale, 1978), as students experience feelings of incompetence, and expectancies of uncontrollability. When students are in such a state, they perceive their actions as caused by forces beyond their control and may eventually stop the given behavior.

## *METHOD*

### Elaboration of the scale

*Subjects*

Subjects were 561 elementary-school students (290 girls, and 271 boys) of 9 elementary schools of the Montreal area (Quebec, Canada). Subjects had a mean age of 10.7 years. A total of 28 classes took part in this phase of the study.

*Procedure*

A survey was distributed to all subjects. They were asked to list two reasons for which:

1) *They do their homework;*
2) *They go to school.*

The responses (4 per students, for a total of 2244 items) were classified by means of frequency. The 200 most frequent responses on the list were kept and classified according to the motivation theory developed by Deci and Ryan (1985, 1991). In order to assess the content validity of the scale, that is the extent to which an empirical measurement reflects a specific domain of content, six "judges" (two university professors and four graduate students in social psychology and education), well cognizant of Deci and Ryan's motivation theory, were asked to classify the items with regard to the various types of motivation. To retain an item, 80 % of the judges had to agree upon its classification. The top 8 items per motivation category were kept.

The preliminary version of the *Elementary School Motivation Scale* (ESMS) was designed to assess students' motivational styles in academic activities. Like Ryan and Connell's *Self-Regulation Questionnaire* (1989), the ESMS assesses intrinsic motivation and external, introjected and identified regulation toward two main academic domains: *"going to school"* and *"doing homework"*. The ESMS also assesses amotivation in these two types of academic activities, thus measuring most of the concepts of the motivation theory developed by Deci and Ryan. However, though the ESMS is based on the tenets of this theory, it is only composed of five subscales. Integrated regulation was not assessed in the scale because pilot date revealed that it was not a perceived reason for participating in educational activities at the elementary-school level. Moreover, factor analyses on experimental forms of a similar scale (Vallerand *et al.*, 1989; Karsenti and Thibert, 1995) show that integrated regulation does not always distinguish itself from identified regulation. The operational definition of the ESMS, like that of Vallerand's scale (1989), reflects the conceptual definitions of intrinsic motivation, three types of extrinsic motivation, and amotivation. The items of the ESMS refer to the students' perceived reasons for engaging in a given activity.

## Field Testing of the scale

*Subjects*

The first version of the ESMS was composed of 8 items per subscale (40 items in all). The rating was on a 1-7 Likert scale, with 7 representing maximum appropriateness. Sample items for each motivation subscale are presented in Table 1.

**Table 1:** Sample Items for Each Motivation Subscale*

**It is important to note that one of the following two questions was asked before each item:*
*- Why do you go to school? (Answer as honestly as possible)*
*- Why do you do your homework? (Answer as honestly as possible)*

| *Motivation Subscale* | *Item* |
|---|---|
| *Amotivation* | *I don't know.* |
| *External Regulation (Extrinsic Motivation)* | *Because my parents force me to.* |
| *Introjected Regulation (Extrinsic Motivation)* | *Because I am afraid of getting bad marks if I am absent.* |
| *Identified Regulation (Extrinsic Motivation)* | *Because this is important for my future.* |
| *Intrinsic Motivation* | *To learn new things.* |

The first version of the ESMS was completed by 478 elementary-school children. This sample was composed of 268 girls, and 210 boys, from 8 elementary schools of the Montreal area. A total of 24 classes took part in this stage of the study (six Grade 4 classes, nine Grade 5 classes, and nine Grade 6 classes). Students were told that their responses would remain confidential and that they would not be obliged to complete the questionnaire, but that their participation would be greatly appreciated. All the students present that day completed the questionnaire.

It should be noted that a preliminary version of the scale was distributed to four elementary-school teachers. They were asked to judge, to the best of their ability, whether the format of the scale was suitable for elementary-school children. Two teachers suggested that the format of the ESMS might be too dry for children of this age. Therefore, drawings were included in the scale, letters were enlarged, and the questionnaire was reproduced on colored paper. Furthermore, the Likert scale was illustrated with smiling-to-non-smiling faces.

## *RESULTS*

With respect to the construct validity of the ESMS, that is*"the extent to which a particular measure relates to other measures consistent with theoretically derived hypotheses concerning the concepts (or constructs) that are being measured"* (Carmines and Zeller, 1978), the present results are also very encouraging.

For instance, the internal consistency of the subscales was assessed with the use of the Cronbach alpha. Results from this study reveal that the internal consistency of all subscales is excellent, ranging from .80 to .92 (Table 2).

Table 2: Internal Consistency of the Five Subscales of the ESMS

| *Motivation Subscale* | ***Cronbach Alpha*** |
|---|---|
| *Amotivation* | .91 |
| *External Regulation (Extrinsic Motivation)* | .88 |
| *Introjected Regulation (Extrinsic Motivation)* | .80 |
| *Identified Regulation (Extrinsic Motivation)* | .90 |
| *Intrinsic Motivation* | .92 |

Also, the results of a factor analysis highlight the five-factor structure of the ESMS and thus provide some support for the factorial validity of the scale. It is important to note that a *confirmatory factor analysis* was used because we were interested in testing specific hypotheses. This type of analysis allowed us to test the extent to which Deci and Ryan's theoretical model, in this case the five-factor model corresponding to the five subscales, adequately represents to covariance matrix of the data. However, as the factor analysis method does not necessarily allow for the testing of the existence of the self-determination continuum as proposed by Deci and Ryan, Pearson correlation coefficients between the various subscales were also conducted (Table 3). The results of the correlations confirm the existence of the self-determination continuum. Furthermore, the correlation matrices between the five types of motivation are represented by an excellent fit of the so-called simplex pattern of correlation. This pattern is the result of autoregressive effects which cause measurements proximate on the theoretical motivation continuum to be more highly correlated than those remote on that continuum. For instance, closely related types of motivation show a more positive correlation, while unrelated concepts such as amotivation and intrinsic motivation exhibit a negative relationship.

**Table 3:** Pearson Correlation Coefficients Between the Various Motivation Subscales of the ESMS

| | Amotivation | EM External Regulation | EM Introjected Regulation | EM Identified Regulation | IM Intrinsic Motivation |
|---|---|---|---|---|---|
| *Amotivation* | - | -.0366 | -.1248<br>$p < 0,005$ | -.1800<br>$p < 0,0001$ | -.3111<br>$p < 0,0001$ |
| *External Regulation (Extrinsic Motivation)* | - | - | .5530<br>$p < 0,0001$ | .3596<br>$p < 0,0001$ | .1275<br>$p < 0,0001$ |
| *Introjected Regulation (Extrinsic Motivation)* | - | - | - | .6317<br>$p < 0,0001$ | .4616<br>$p < 0,0001$ |
| *Identified Regulation (Extrinsic Motivation)* | - | - | - | - | .4908<br>$p < 0,0001$ |
| *Intrinsic Motivation* | - | - | - | - | - |

## *DISCUSSION*

Overall, the findings replicated the results obtained with similar scales for high-school and junior-college students. It now appears that some support exists for the reliability and the validity of the ESMS. Although these findings are indeed very encouraging, they must nevertheless be understood as being only preliminary in nature. A complete assessment of the psychometric properties of the scale will require additional research. It seems appropriate to reiterate that the operational definition of the ESMS directly reflects the conceptual definition of the motivational constructs developed by Deci and Ryan (1985, 1991). Such an equivalence between the conceptual and operational definitions of motivation should lead to more meaningful research.

Though the ESMS is a recent scale which should continue to be evaluated in future research, results from the present study provide support for the adequacy of its psychometric properties. These, along with the flexibility of the multidimensional structure of the ESMS, should make it a useful tool for motivation research at the elementary-school level. Deci and Ryan's construct goes beyond the usual intrinsic/extrinsic distinction, and allows for a more accurate analysis of motivation change in elementary school, thereby opening the door to innovative research.

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